CLAIMS

1. An active matrix display device comprising an array of display pixels provided over a common substrate (60), each pixel comprising:

a drive transistor circuit provided over the substrate (60); and

an upwardly emitting current-driven light emitting display element (2) provided over the drive transistor circuit, and comprising a lower electrode (74) and an upper substantially transparent electrode (80a); and

a light sensitive device (27) for sensing the display element (2) light output and positioned between the substrate (60) and the display element (2),

wherein a drive transistor (22) of the drive transistor circuit is controlled in response to the light-sensitive device (27) output, and

wherein the lower electrode (74) of the display element is partially transmissive to transmit at most 20% of the light incident on the lower electrode, at least a portion of the transmitted light being directed to the underlying light-sensitive device (27).

2. A device as claimed in claim 1, wherein the lower electrode comprises a metal layer (74c) having a transmission of 1% to 10%.

3. A device as claimed in claim 2, wherein the lower electrode comprises a metal film of 10nm to 60nm.

4. A device as claimed in claim 2 or 3, wherein the lower electrode comprises a conductive transparent layer (74e) overlying the metal film layer (74c).

5. A device as claimed in claim 1, wherein the lower electrode comprises a substantially opaque layer (74c) provided with an opening (150) in the vicinity of the light sensitive device (27).

6. A device as claimed in claim 5, wherein a substantially transparent conductive material is provided in the opening (150).

7. A device as claimed in claim 6, wherein the substantially transparent conductive material forms a layer (75) overlying the opaque layer (74c).

8. A device as claimed in any one of claims 5 to 7, wherein the light sensitive device (27) is positioned beneath and laterally to one side of the opening (150).

9. A device as claimed in any one of claims 5 to 7, wherein the light sensitive device (27) is positioned beneath and around the opening (150).

10. A device as claimed in claim 9, wherein the light sensitive device comprises a phototransistor having an inner annular source and an outer annular drain, and wherein the outer annular drain is positioned radially outside the opening (150).

11. A device as claimed in any one of claims 1 to 9, wherein the light sensitive device (27) comprises a photodiode.

12. A device as claimed in claim 11, wherein the photodiode (27) comprises a PIN or NIP diode stack or a Schottky diode and top and bottom contact terminals.

13. A device as claimed in any preceding claim, wherein the device further comprises light blocking or reflecting elements (152) provided on top of the upper electrode and overlying the light sensitive devices (27) of the pixels.

14. A device as claimed in claim 13, wherein the light blocking or reflecting elements (152) are formed from a metal layer which also defines resistance reducing portions (79) for the upper electrode.

15. A device as claimed in any preceding claim, wherein the substrate (60) comprises a glass substrate.

16. A device as claimed in any one of claims 1 to 14, wherein the substrate (60) comprises a metal foil and insulating dielectric layer.